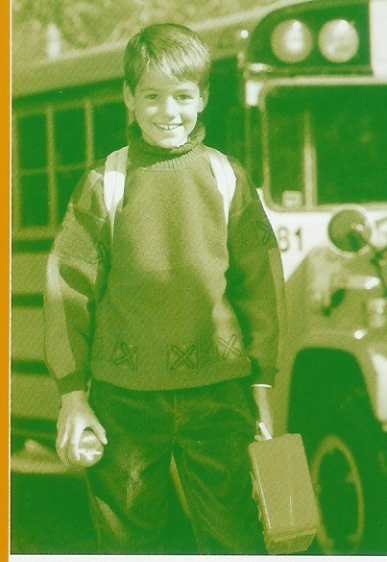
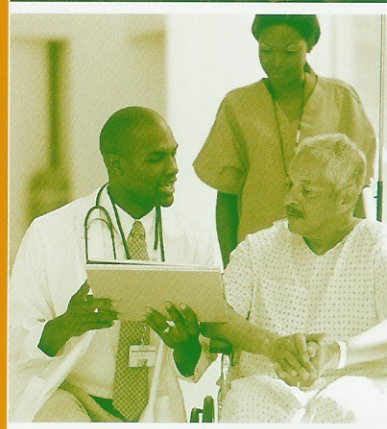
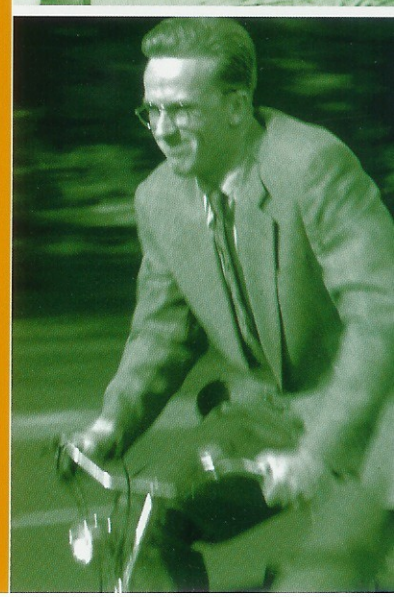
Improving Cardiovascular Health in Michigan:

2003 Update on the Continuing Challenge







Executive Summary

Developed by

The Michigan Cardiovascular Health Task Force

Supported by

Michigan Department of Community Health
Cardiovascular Health, Nutrition and Physical Activity

Improving Cardiovascular Health in Michigan:

2003 Update on the Continuing Challenge

Executive Summary

inside

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DEAR COLLEAGUES,

Although progress has been made in reducing the burden of cardiovascular disease (CVD) in Michigan, we still have significant challenges. New approaches to preventing chronic disease using population strategies have stimulated new partners and new ideas. Advances in the science and the treatment of CVD and its risk factors bring new opportunities.

This executive summary, "Improving Cardiovascular Health in Michigan: 2003 Update on the Continuing Challenge," is an update on the CVD problem with new strategies and recommendations developed by a group of scientists, clinicians, researchers and allied health professionals, convened to bring a renewed focus and innovative solutions to an ongoing burden.

The emphasis of this document reflects the significant role that prevention plays in reducing CVD. In addition, the importance of early identification, control of risk factors and quality management of established disease is incorporated into the content.

The recommendations in this report include strategies in the community incorporating schools and worksites as well as strategies in health care settings including primary care, hospitals, rehabilitation and other health agencies. Each of these recommendations provides a vision and goal for organizations and individuals who are interested in preventing and reducing CVD in Michigan. The major themes of the recommendations center on consumer awareness, surveillance and evaluation, provider education, cultural appropriateness, reducing disparities, accessible services, policy and environmental changes.

On behalf of all the participants involved in this process, I want to encourage you to use these recommendations as a guide for future initiatives.

Sincerely,

Barry A. Franklin, Ph.D., Chair
Cardiovascular Health Task Force

History of Cardiovascular Disease Prevention Planning

In Michigan, more people die each year from cardiovascular disease (CVD) than from any other cause.[1] Almost 40 percent of Michigan's residents will die of heart disease and stroke.[2] Efforts to reduce the burden of CVD take place through community activities, advocacy, environmental and policy changes, collaborations, medical treatment and individual behavior modification. Many factors that increase the likelihood of developing heart disease or suffering a stroke are the same and can be prevented, or at least modified or controlled. By modifying behaviors to follow a healthier way of life, it is possible to decrease the risk of developing CVD.[3]

To be effective, public health action and policy must incorporate current science and feasibility of interventions. We have the tools and knowledge to substantially reduce the devastating impact of heart disease and stroke has on individuals, families, communities and the economy.[4] Closing the gap between discovery and delivery to the population at risk, and supporting prevention in the broad community is a major challenge, but the benefits of reducing that gap are significant.

The Michigan Department of Community Health has published in-depth reports on CVD[1] and specific risk factors such as diabetes, tobacco, obesity, nutrition and physical activity including

- *An Epidemic of Overweight and Obesity in Michigan's African American Women (2002)*
- *Nutrition and Physical Activity: Assessment of Interventions in Low-Income Elementary Schools (2002)*
- *The Role of Michigan Schools in Promoting Healthy Weight (2001)*
- *The Michigan Diabetes Strategic Plan (2003)*
- *Tobacco-Free Michigan 2008*

In 2003, the Michigan Department of Community Health invited experts to participate in a series of three meetings of the **Michigan Cardiovascular Health Task Force (CVH Task Force)**. The goal of these sessions was to review the current status of cardiovascular disease in Michigan, identify opportunities for preventing and reducing the disease burden and develop recommendations and strategies to guide health agencies, professionals and state government over the next 5 years. During the development of the recommendations it was agreed that the report would be the vision for partnering agencies to develop their own strategies and action plans.

Participants reviewed current scientific and best practice information related to

- ✓ prevention, management, and treatment of cardiovascular disease
- ✓ elimination of disparities
- ✓ conducting surveillance evaluation
- ✓ developing education and awareness campaigns
- ✓ creating policy and environmental change
- ✓ emerging issues
- ✓ potential cost savings

Three subcommittees were formed from the **CVH Task Force** and experts were assigned to a subcommittee based on their affiliation and expertise: 1) Community, 2) Primary Care and 3) Hospital and Rehabilitation. Recommendations were developed during a series of meetings and are the focus of this Executive Summary. **The Task Force focused on heart disease, stroke, and modifiable CVD risk factors:** excess weight, physical inactivity and unhealthy eating, high blood pressure, high cholesterol, smoking and diabetes. Other emerging issues were also discussed.

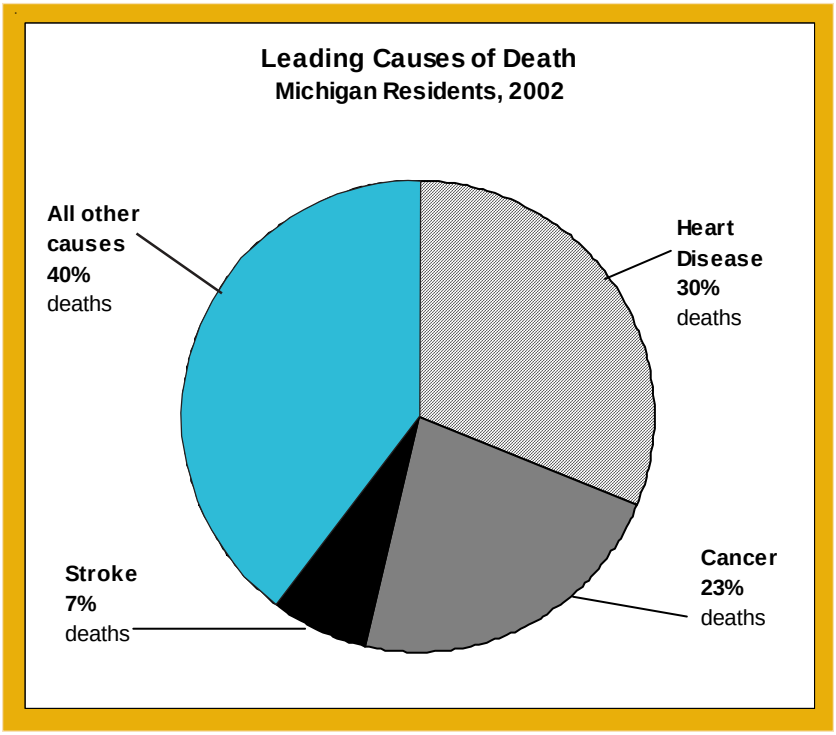
Description of the Problem

Cardiovascular Disease

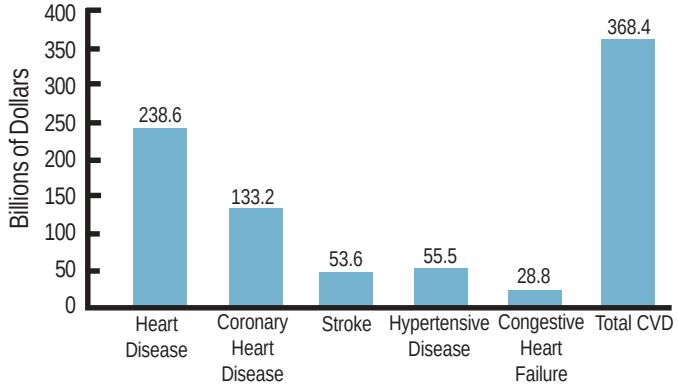
Since 1900 cardiovascular disease (CVD) has consistently been the number one cause of death in Michigan, as well as the United States, except for 1918, the year of the devastating flu epidemic. The term CVD encompasses many diseases of the circulatory system. The most prevalent diseases—heart disease and stroke—claimed over 32,000 Michigan lives in 2002.[8] Other diseases in this category include aneurysms, congenital disorders, congestive heart failure, etc.

HEART DISEASE AND STROKE ARE THE MAJOR CARDIOVASCULAR DISEASES.

Michigan is ranked 11th highest of the 50 states in age-adjusted CVD mortality.



Estimated Direct and Indirect Costs (in Billions of Dollars) of Cardiovascular Diseases and Stroke, United States, 2004



Source: American Heart Association and NHLBI

Economic Burden

Between 1990 and 2004 national health care costs for CVD increased by 290%

1990 & 2004 AHA Statistical Update.

Total costs for CVD:

- National estimated at $368.4 billion/year
- Michigan estimated at $12.9 billion/year[2]

Costs are rising rapidly and will continue to increase due to a larger aging population and general health care increases. Medicaid expenditures, which comprise 20% of Michigan's state budget, have risen about 12% per year. Chronic diseases such as CVD, account for much of this increase.

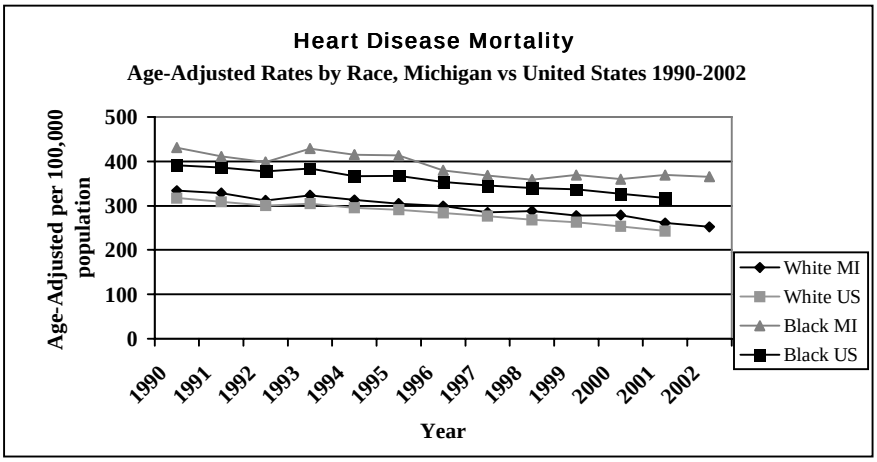
The cost of a coronary bypass averages almost $60,000 for hospital stay. If even one percent of individuals in Michigan who have angina were prevented from needing bypass surgery, the savings could be $300 million.

The cost of a stroke in 2004 is estimated at $250,000. If one percent of those individuals who reported having a stroke were prevented from suffering the stroke, the savings could be over $700 million.

Based on data from 2002 BRFS

Heart Disease

Heart Disease causes a heavy burden of disease and disability to Michiganians. Coronary heart disease (CHD), one of the most preventable forms of heart disease, has been an excessive burden. Since the mid-1970s, Michigan's age-adjusted death rate has been above national rates and in 1990 Michigan had the second highest coronary death rate in the nation. Coronary heart disease usually results in a heart attack.



Note: final mortality data for year 2002 not yet available. Data from Michigan Vital Statistics.

Heart disease and stroke **can affect** anyone without regard to age, race, ethnicity, sex or income level. As our population ages, these largely preventable conditions are projected to increase.

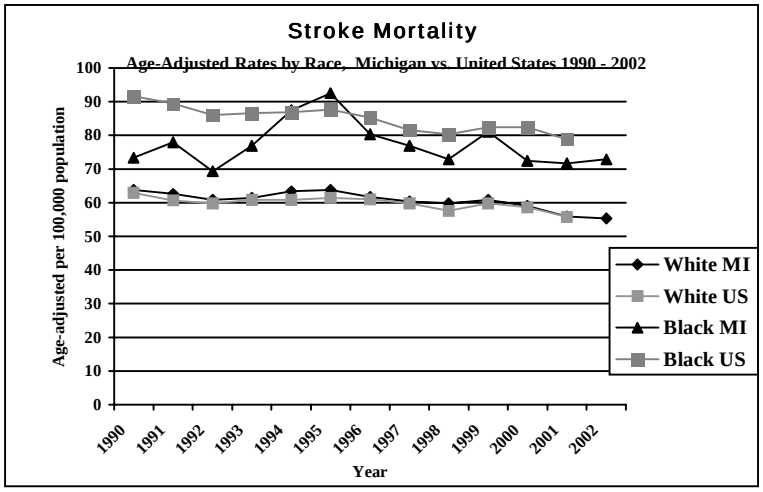
Tommy Thompson, Secretary of Health and Human Services

Stroke

Stroke is the third leading cause of death in Michigan and the nation. The loss of blood supply and nutrients may cause death, paralysis or other severe problems. Every stroke is different depending on the cause and the area of the brain affected.

- Ischemic strokes make up 88% of all strokes that occur
- Hemorrhagic stroke - 12%
  - Intracerebral hemorrhage 9%
  - Subarachnoid hemorrhage 3%[11]

Stroke is the leading cause of serious, long-term disability. Between 15 and 30% of stroke survivors are permanently disabled and others have some residual deficit. Fourteen percent of individuals who survive a first stroke will have another one within one year.[8]



Note: final mortality data for year 2002 not yet available. Data from Michigan Vital Statistics.

Priority Populations

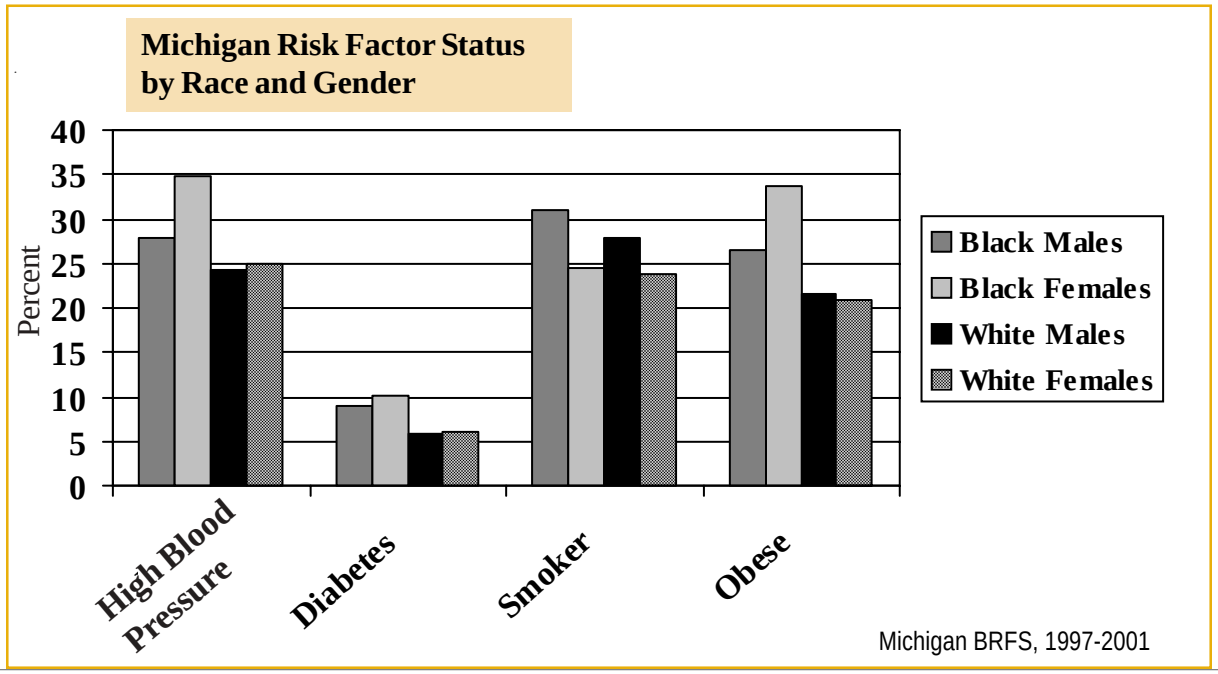
Although CVD is a major concern throughout Michigan, there are high risk and vulnerable populations that appear to be affected disproportionately, and perhaps have also been underserved. Three of these groups are described here: **blacks, children and women.**

Blacks

Death rates related to CVD for blacks in Michigan are almost two times higher than the rates for whites in Michigan, and the disparity is even greater for men. [9]

- Michigan's age-adjusted stroke death rate for blacks is above the national and state rates for whites, and it is higher than national rates for Blacks.[2]
- A higher proportion of black adults in Michigan are overweight or obese compared to white adults (67% versus 61%, respectively).[12]
- More blacks are obese (30%) than whites (22%), while more Whites (39%) are overweight than blacks (37%).[12]

Blacks have higher rates of high blood pressure and diabetes than whites as shown in the chart below.



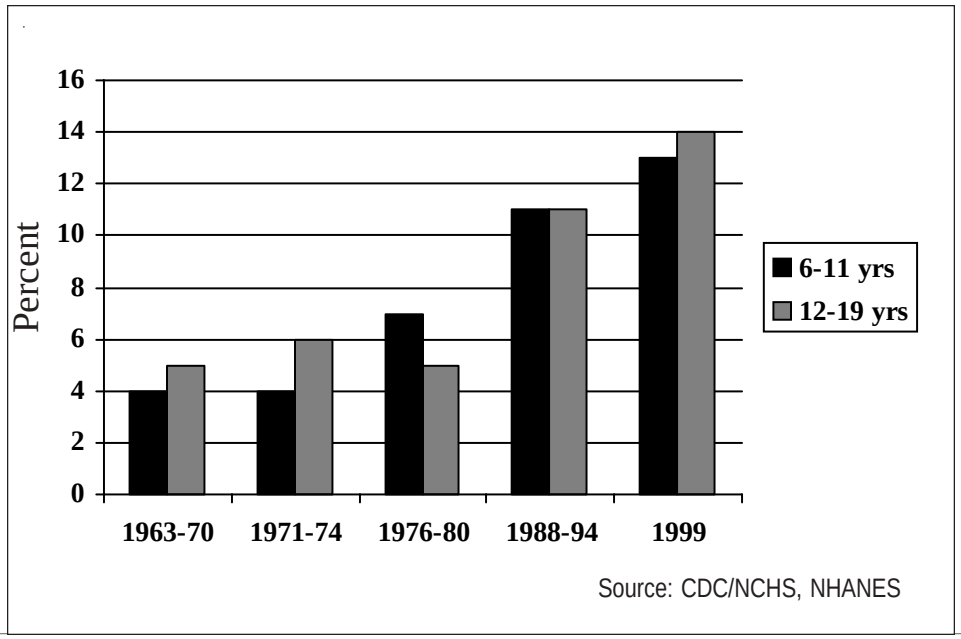
Children and Adolescents

Children are another vulnerable population, reflected in the estimate that **one in three** is overweight. Children are suffering from typically adult diseases such as elevated cholesterol, hypertension and diabetes. There are several likely reasons for children being inactive and overweight. Excessive TV and computer time, fewer meals eaten at home with the family and less leisure time physical activity contribute to the problem.

- Prevalence of adolescents who are overweight has more than doubled from the late 1970s to 1994[12]
- 12% of children in Michigan are overweight, compared with 11% nationwide[12]
- About one quarter of children and adolescents engage in regular moderate activity (five or more days per week)[12]
- Boys are slightly more likely than girls to engage in sustained moderate activity (27% vs. 24%)[12]
- 72% of children do not attend physical education class daily[12]
- Children who are overweight at age 6 and beyond have a greater than 50% chance of being obese as adults[13]

Future health care costs could be greater with the increase in CVD risk factors in our children and youth. Only 2% of children eat a healthy diet and 35% are physically inactive.

National Alliance for Nutrition and Activity, 2004



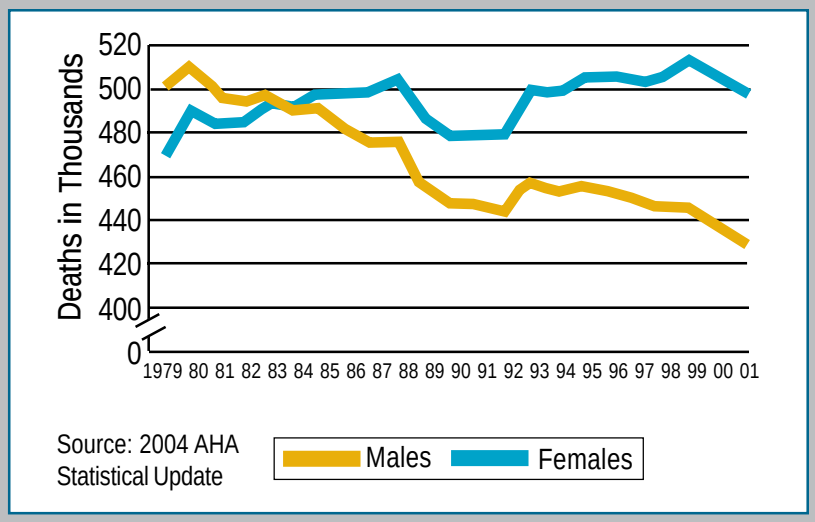
Overweight in Children
U.S., 6-19 yrs, 1963-1999

Women

Many women are unaware that heart disease is the leading cause of death in women. Since 1984, more women than men have died every year of heart disease. According to a recent study of women with heart attacks, only 30% had any chest pain or discomfort. Unusual fatigue is the most noted warning sign of heart attack in women. Increasing awareness of heart disease in women has challenged health care providers to revise their interventions with female populations.[8]

CVD Mortality Trends

Males and Females, U.S. 1979-2001



In total deaths, more women than men have died of CVD since 1984.

The Department of Health and Human Services estimates that unhealthy eating and inactivity cause 1,200 deaths every day in the U.S. That is five times more than the number of people killed by guns, HIV, and drug use combined.

CVD RISK FACTORS

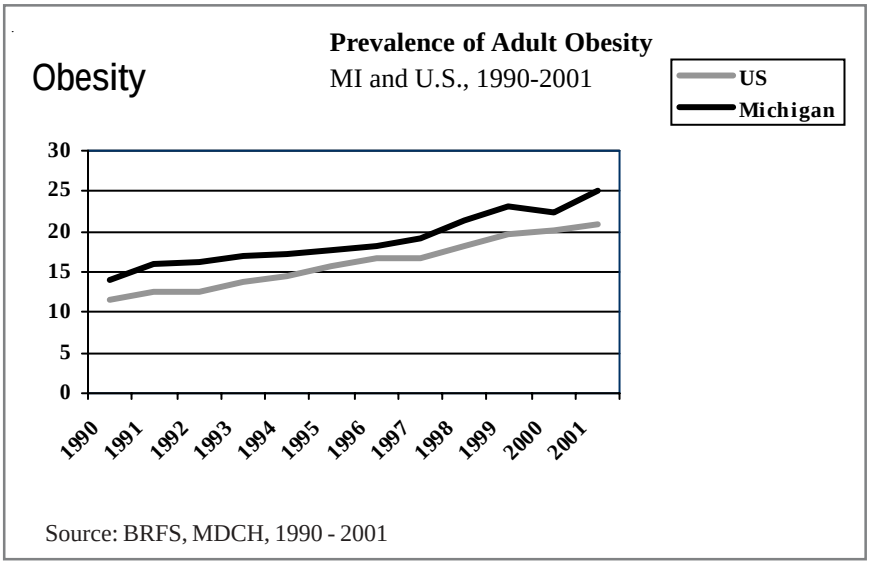
Heart disease and stroke have many similar risk factors. It would be best to reduce the disease burden through risk factor prevention but this must be paired with modification or control of risk factors. Of the known CVD risk factors, excess weight is of immediate concern because of its significant increase.

Physical Inactivity

- 76% of adults report no regular leisure time physical activity[14]
- Physical inactivity costs in Michigan were estimated at $8.9 billion in 2002[14]

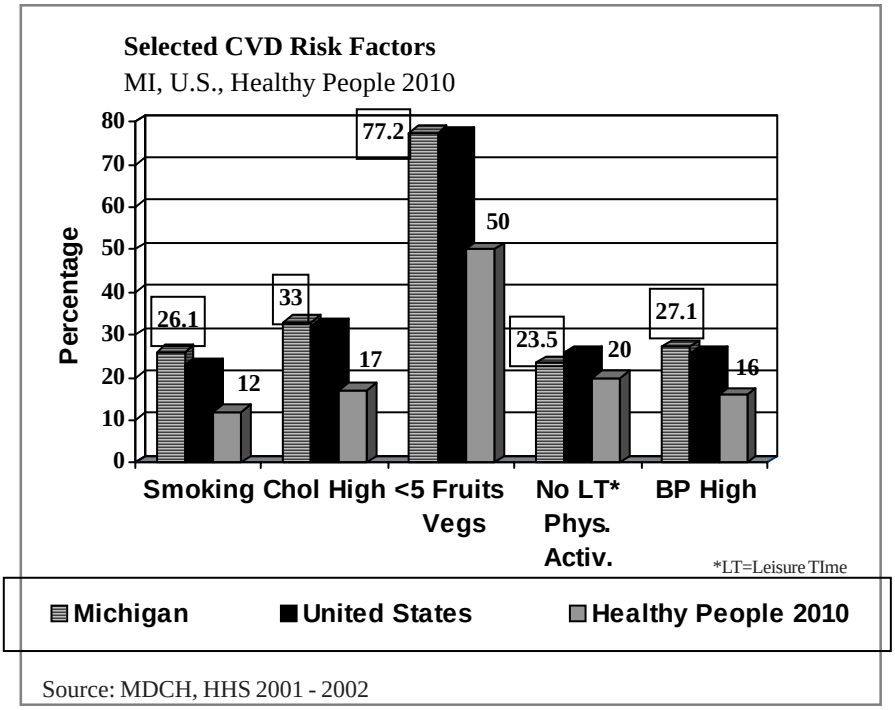
Unhealthy Eating

- 77% of Michigan adults report eating less than 5 servings of fruits and vegetables a day[11]
- Portion sizes and the number of calories eaten per day have increased



Source: BRFS, MDCH, 1990 - 2001

Healthy People 2010 identifies health goals for the nation for the year 2010. Michigan and U.S. rates for various risk factors are compared below.

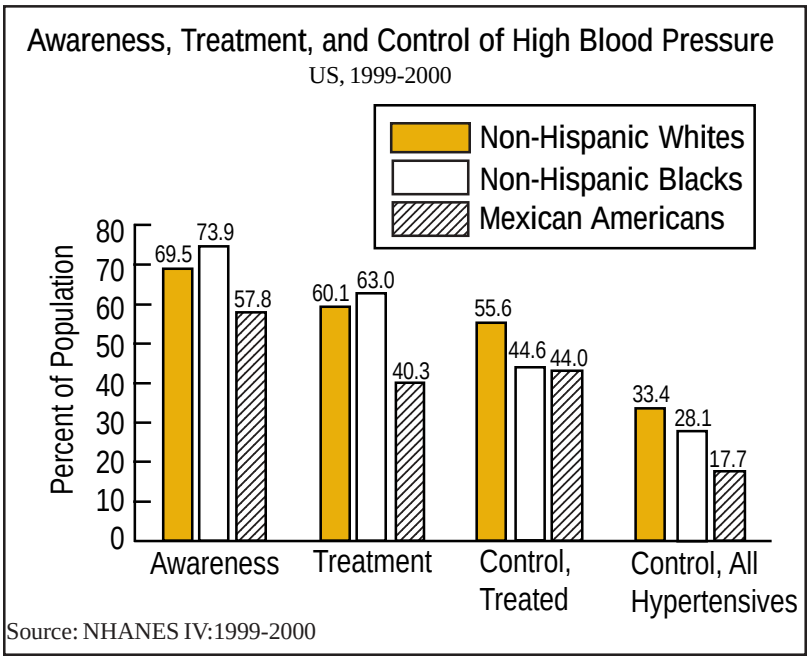


Source: MDCH, HHS 2001 - 2002

Healthy People 2010 describes goals that Michiganians fall short of and have many areas to work on.

High Blood Pressure

Although high blood pressure detection and treatment is widely recognized as a key medical intervention to prevent CVD and a wide range of treatments are available, awareness, treatment and control rates are low, as shown in the chart below.



Source: NHANES IV:1999-2000

If a healthy lifestyle was maintained in 1 out of every 1,000 people and a coronary bypass was avoided…the cost savings would potentially be $400 million.

Multiple Risk Factors and Lifestyle Behaviors

- Nine out of ten Michigan adults have one or more of the major CVD risk factors*: high blood pressure, high blood cholesterol, smoking, diabetes, overweight and physical inactivity*
- Only 4% of Michiganians reported engaging in four key healthy lifestyles: healthy weight, adequate fruit and vegetable intake, not smoking and engaging in adequate physical activity
- About 3 out of 4 premature deaths are attributable to the following CVD risk factors: cigarette smoking, high blood pressure and high blood cholesterol

EMERGING ISSUES

Depression/Stress

- Two trademarks of stress, impatience and hostility, have been associated with increased CVD risk.

Low Health Literacy

- The capacity to obtain, process and understand basic health information and services is needed to make appropriate health decisions.[15]
- Forty four percent of Michigan adults have low or marginal literacy skills.
- Seniors, low-income individuals and those with chronic disease have been identified to be at a higher risk for low literacy.

Genetics

- An individual's family medical history can provide predictive risk for CVD.[16]
- There are identified genetic links to hypertension, stroke, high cholesterol, sudden cardiac death, arrhythmias and other cardiovascular diseases. This rapidly evolving science will bring significant advances in CVD.

Environment

- The physical structures of modern communities make it more difficult for citizens to practice health-promoting behaviors. Health is connected to both the physical and social environments.
- Social and environmental conditions contribute to development of CVD risk factors, especially unhealthy eating and physical inactivity.
- Dietary patterns result from the influences of food-production policies, marketing practices, product availability, cost, convenience, knowledge about choices that affect health, and preferences based on early-life habits, many aspects of which are beyond the control of the individual.[17]

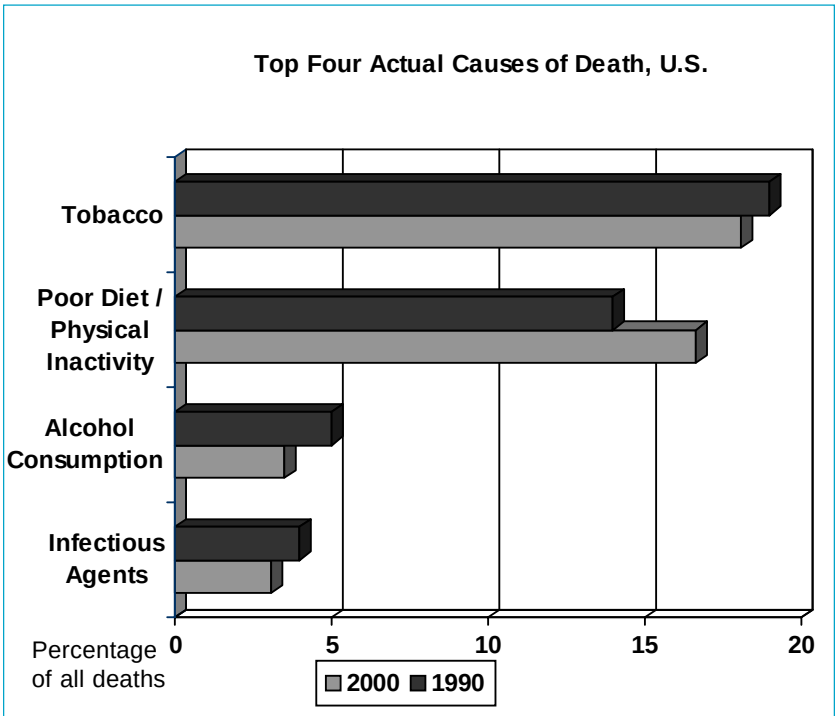
Emerging Science

- Inflammation has been identified as a contributor to the development of atherosclerosis. A new test, C-Reactive Protein, may hold promise for identifying risk.
- In clinical studies, elevated lipoprotein(a), fibrinogen, and homocysteine values have shown some correlation to CVD risk. Additional studies are needed.
- National consensus guidelines and research for CVD and its associated risk factors are published regularly. Translation and application of this information must be provided to health professionals and the public.

ACTUAL CAUSES OF DEATH

In the United States, as in Michigan, most of the leading causes of death are chronic diseases that develop over many years.

The root causes of these diseases are often modifiable behaviors, such as tobacco use, poor diet and physical inactivity. Studies clearly demonstrate that modifiable behavioral risk factors are leading causes of mortality in the United States. While smoking remains the number-one leading "actual" cause of death, poor diet and physical inactivity are in second place and moving up rapidly.



Source: JAMA 1993 and JAMA 2004

THE ACTUAL CAUSES OF DEATH IN THE U.S. ARE PRIMARILY LIFESTYLE BEHAVIORS. TOBACCO, POOR DIET AND PHYSICAL INACTIVITY CAUSE 2/3 OF PREMATURE DEATHS.

Nutrition Alliance for Nutrition & Activity 2003

It is predicted that poor diet and physical inactivity will surpass tobacco usage as the leading cause of death very soon. The rapid rise of the prevalence of overweight and obesity in Michigan is a strong indicator of the spread of poor diet and physical inactivity within our state population.

Challenges and Opportunities for Reducing CVD in Michigan

"We have the scientific knowledge to create a world in which most heart disease and stroke would be eliminated."

-Victoria Declaration, International Heart Health Conference 1992

It is widely recognized that much of the heart disease and stroke burden could be prevented if all citizens practiced known preventive actions. Achieving this goal will require profound changes at the community level.[17] Personal lifestyles have changed,+ and many individuals are not aware of the impact on their health. Family meals are no longer the norm as other priorities (extended workdays, after school activities, etc.) occupy the traditional dinner hour. There is an increasing trend toward eating out or preparing heat-and-serve meals.

Convenience foods are often high fat and offered in large portion sizes. Healthy selections are limited on most menus. Serving sizes have increased and availability of food at lower costs influence eating habits.

Individual behaviors are supported and reinforced by legislation, regulations, organizational policies, social norms and environments. A comprehensive approach to promoting CVH requires policy and environmental change, education and increased awareness.

In the following pages, the CVH Taskforce addresses challenges and opportunities in specific venues.

Community

Community-based initiatives have the advantage of involving various organizations and opening avenues to provide policy change, educational interventions and environmental support necessary to improve cardiovascular health. Local organizations can identify target populations and solicit community participation in addressing physical, social, political, and cultural environments. Some innovative and underutilized settings in the community are recreation facilities, beauty shops, barbershops, and faith-based settings.

Schools

Reaching children before they develop habits is important and providing a healthy environment with good role models can make a big difference in their future health. Nutrition and physical activity in school systems is a component that often is not a priority in the school curriculum.

Worksites

Illnesses related to CVD can affect employees' ability to contribute at work. Worksite health promotion programs can positively affect profitability, production and employee morale. Businesses can also reinforce employees' efforts to engage in healthy behaviors by implementing supportive policies and environments.

Health Care

Health care organizations and professionals provide early identification of CVD risk, guidance for preventive behaviors, and assurance of high-quality care to reduce the burden of CVD. Since 95% of health care expenditures are in acute care, it is critical that these services be appropriate, cost-effective and high quality. Acute-care services are important opportunities for influencing morbidity and mortality as well as health care costs.

Overall Goals For Communities

1. ***Increase community capacity to provide policies and environments that support physical activity, healthy eating, reduced smoking and exposure to secondhand smoke.***
2. ***Increase public awareness and education on cardiovascular health, including CVD prevention.***
3. ***Increase capacity of communities to access local surveillance data for use in planning and evaluating cardiovascular health improvement programs.***

Recommendations for Communities

1. Promote the implementation of policies, environments and programs to improve the cardiovascular health of citizens related to healthy eating, physical activity and tobacco-free lifestyles.
   - Promote the implementation of the Promoting Active Communities (PAC) assessment tool to communities, neighborhoods and community-based organizations.
   - Promote the implementation of the Nutrition Environment Assessment Tool (NEAT) to communities, neighborhoods and community-based organizations.
   - Promote the development of community health teams to conduct PAC or NEAT and develop an action plan to improve physical activity and nutrition policies and environments.
   - Support communities with priority populations.
2. Encourage and support physical activity among citizens through policies, environments and programs.
   - Encourage residents to participate in local decision making regarding land use, transportation policies, school placements and road designs that support physical activity.
   - Provide marketing messages to educate citizens on the benefits of physical activity and promote strategies to become more active (e.g., walking programs, non-motorized transportation options, bike racks, and safety programs).
   - Develop, implement and/or enforce policies on maintaining sidewalks, trails and bike paths throughout the seasons.

Recommendations for Communities

3. Encourage and support healthy eating among citizens through policies, environments and programs.

- Implement breast-feeding programs and guidelines as a strategy to reduce obesity.
- Improve access to healthy choices in vending machines, farmers' markets, youth farm stand projects and community gardens.
- Encourage and recognize healthy options in restaurants.
- Expand the Women, Infant & Children Program's Project Fresh to increase availability of fruit and vegetables across the state.

4. Promote smoke-free environments for all citizens through policy and environmental programs.

- Promote and provide access to smoking cessation services for current smokers.
- Encourage local and state ordinances prohibiting smoking in public places.

5. Prepare communities for cardiovascular health emergencies.

- Promote availability of American Heart Association, American Red Cross or other similar cardiopulmonary resuscitation (CPR) programs.
- Encourage all first response agencies to have defibrillation capability.
- Educate citizens on heart attack and stroke warning signs and how to activate emergency medical systems when appropriate.

Expected Outcome

There will be an increase in the number of communities in Michigan that have implemented policies, environments and programs which improved the cardiovascular health of citizens related to healthy eating, physical activity and tobacco-free lifestyles.

Recommendations for Awareness & Education

1. Using social marketing strategies, develop and implement culturally appropriate statewide awareness campaigns on healthy eating, physical activity and tobacco elimination.

2. Deliver multiple consistent messages from a variety of sources that promote awareness and behaviors that support heart health.

3. Promote programs that raise awareness of the risks of cardiovascular disease in women and high risk populations.

4. Increase awareness of the unique signs and symptoms of heart disease in women and awareness that heart disease is the leading cause of death in women.

5. Advocate for increased funding from federal sources, state sources, and public and private groups for prevention of CVD and to promote heart health.

Individual behavior change needs an ongoing supportive environment to sustain itself.

Expected Outcome

There will be an increase in the number of Michigan citizens who have received multiple consistent messages, from a variety of partners or sources, that promote awareness and behaviors supporting heart health.

Recommendations for Schools

1. Provide healthy school environments.

- Continue to implement the recommendations in *The Role of Michigan Schools in Promoting Healthy Weight Consensus Paper* and support the goals of other partners working on healthy school environments.
- Conduct a school self-assessment using the Healthy School Action Tool and develop an action plan to improve physical activity, nutrition and tobacco policies and environments.
- Develop a system of recognition for schools that are making positive changes in their physical activity and nutrition policies and environments.
- Provide support to high priority schools serving disadvantaged school populations.

2. Implement age-appropriate and culturally-relevant lessons and curricula that promote cardiovascular health.

- Provide health education using a comprehensive curriculum, with lessons related to risk factors for CVD and stroke and life skills related to healthy eating, physical activity and tobacco elimination (e.g., Michigan Model for Comprehensive School Health Education Curriculum).
- Provide physical education at least three times a week for thirty minutes (eg., Exemplary Physical Education Curriculum).
- Ensure that teachers have access to high quality and low-cost curricula addressing healthy eating, physical activity, cardiovascular health and tobacco use reduction and in-service training on use of these materials.

3. Encourage and enable children to be physically active by establishing supportive policies, environments and programs.

- Implement safe routes to school initiatives, offering Walk to School Day events and encouraging community walking school buses.
- Implement the Policy on Quality Physical Education, adopted by the Michigan State Board of Education. This addresses curriculum, instruction and assessment in conjunction with an opportunity to learn and recommends daily opportunities for unstructured physical activity.
- Encourage and enable preservation of neighborhood and historic schools.

4. Encourage and enable children to eat healthy food by establishing supportive policies, environments and programs.

- Implement the Policy on Offering Healthy Food and Beverages, adopted by the Michigan State Board of Education. This addresses food and beverage choices within the school environment, including but not limited to vending machines, a la carte sales, school stores, fundraising and other venues within the school's control.
- Implement healthy eating initiatives such as developing school gardens to provide education and fresh produce offerings.

5. Promote tobacco elimination by establishing supportive policies, environments and programs.

- Facilities, property, vehicles and events should be smoke-free and tobacco-free.

6. Prepare for cardiovascular health emergencies.

- At all times, each Michigan school should have a person available who is trained in American Heart Association (AHA), American Red Cross (ARC) or similar cardiopulmonary resuscitation (CPR) curriculum.
- AHA, ARC or similar CPR instruction should be provided to students at appropriate ages.
- Place an automated external defibrillator on site if local EMS providers do not have the capacity to be at a victim's side in 4-6 minutes. Someone trained to operate the equipment should be available.
- Students and staff should know how to activate the emergency medical system and should know when it is appropriate to do so.

Expected Outcome

There will be an increased number of schools in Michigan that have implemented policies, environments and programs to improve the cardiovascular health of students and staff by developing lifelong attitudes and skills related to healthy eating, physical activity and tobacco elimination.

Recommendations for Worksites

1. **Worksites in Michigan are encouraged to implement policies, environments and programs to improve the cardiovascular health of employees related to healthy eating, physical activity and tobacco-free lifestyles.**
   - Encourage and support worksites to have "worksite wellness teams" that have management support and annually survey employees on their health-related needs and interests.
   - Utilize the Developing Healthy Environments at Work assessment tool (DHEW) and develop plans to modify or improve the worksite's policies, environments, and programs based on the results of the assessment.

2. **Encourage and support physical activity among employees through policies, environments and programs.**
   - Provide on-site physical activity programs and facilities, such as educational opportunities, classes, pedometer programs, walking trails, basketball courts, fitness rooms and showers.
   - Provide safe, attractive and accessible stairwells and promote their use.
   - Promote active commuting, such as walking, biking and rollerblading to the worksite.

3. **Encourage and support healthy eating among employees through policies, environments and programs.**
   - Promote healthy eating through educational materials, such as emails, newsletters, posters, bulletin boards, and educational classes.
   - Offer and promote healthy food choices in cafeterias and vending machines.
   - Implement policies that encourage healthy foods during meetings and celebrations.

4. **Promote tobacco elimination through policies, environments and programs.**
   - Develop a formal smoking policy that prohibits smoking at the worksite.
   - Provide programs and/or resources to help employees have a tobacco-free lifestyle.

5. **Promote the standard of having all worksites prepared for cardiovascular health emergencies.**
   - Encourage worksites to have a person on-site at all times trained in AHA, ARC or similar CPR curriculums.
   - Encourage installation of automated external defibrillators at worksites and train staff if local EMS providers do not have the capacity to be at worksites within 4-6 minutes.

Expected Outcome

There will be an increased number of worksites in Michigan that have implemented policies, environments and programs that improve the cardiovascular health of employees related to healthy eating, physical activity and tobacco-free lifestyles.

Overall Goals for Health Care

1. *To reduce CVD risk factors in Michigan citizens.*
2. *To identify and control CVD and its risk factors with an emphasis on applying known science and consensus guidelines.*

Recommendations for Primary Care

1. Provide cardiovascular health updates to primary care health professionals.
   - Distribute updated guidelines and education on CVD risk factor assessment and treatment to clinicians.
   - Promote formal integration of patient education on cardiovascular disease training into medical school curricula and primary care residency programs (Internal Medicine, OB/GYN, Pediatrics, and Family Practice).
   - Provide continued professional education opportunities for health care providers on new national guidelines regarding cholesterol, hypertension, diabetes, obesity, physical activity and tobacco cessation.
   - Provide continued professional education opportunities related to new breakthroughs in care and risk assessment, including genetics, pharmacotherapies and novel risk factors.
   - Acknowledge the increasing prevalence of metabolic syndrome and impaired glucose tolerance as prognostic indicators of cardiovascular health risk.
2. Provide support to health care services to improve the quality of cardiovascular care.
   - Collaborate with the Michigan Association of Health Plans (MAHP) on professional and consumer-friendly projects such as *Taking on Weight*, *Taking on Diabetes*, *Taking on Tobacco* and *Taking on Stroke*.
   - Improve the identification of high-risk patients by developing and providing cardiovascular health tools that foster more thorough assessment of family history and reflect new national guidelines.
   - Promote optimal screening, treatment and control of risk factors through publication and dissemination of timely updates from evidence-based research on new best-practice guidelines, established and emerging risk factors and contemporary treatment recommendations.

- Reduce recurrence of heart attacks and strokes through distribution of material targeting lifestyle modification with physical activity, healthy eating (DASH diet, AMA dietary guidelines), smoking cessation and adjunct drug therapies (e.g., use of aspirin).
- Promote health literacy in citizens by developing and supporting campaigns, classes, and pamphlets that provide awareness messages about disease self-management. Teach and encourage patients to regularly measure, record, and understand their own values so that providers can use the data to enhance the quality of care.
- Utilize quality-improvement programs such as Michigan Association of Health Plans and Michigan Quality Improvement Consortium and their tools to work with managed-care providers and patients to establish benchmarks for risk factor management across the continuum of care (primary, secondary, tertiary).
- Utilize data tracking or registries that can be accessed by all clinicians to disseminate best practice guidelines.
- Recognize the importance of coronary heart disease (CHD) risk equivalents as defined by the National Cholesterol Education Program Adult Treatment Panel Report III.
- Develop tools and systems change models with an emphasis on measuring and tracking the quality of cardiovascular care, reporting patient progress, engaging patients in care and empowering them for ongoing involvement.

3. Expand community-based programs to increase awareness of CVD risk factors and change health behaviors.

   - Endorse the use of school-based health clinic nurses, nurse practitioners, physician assistants, and physicians to identify risk factors in students and coordinate care with students' parents and physicians. Promote the use of national guidelines such as the School Health Programs and Policies Study (SHPPS) 2000 within school-based health clinics and surrounding school community.
   - Raise awareness of the increasing prevalence of obesity and Type 2 diabetes in school-age children
   - Promote and expand programs focusing on women and CVD, such as the Centers for Disease Control's WISE WOMAN Program.
   - Develop and support resources and campaigns to encourage health literacy, personal health history monitoring, and personal health maintenance.
   - Endorse participation in national programs/registries for family health history assessments and personal tracking of medication usage, risk factor levels and diagnoses.

4. Reduce health disparities for CVD..

- Raise awareness of existing programs and organizations that have models addressing health disparities with collaborations, such as *Changing Practice, Changing Lives.*[1]
- Develop and distribute culturally sensitive and appropriate health messages, for citizens in priority populations, about health literacy, access to health care, risk factor screening recommendations and treatment opportunities.
- Target priority populations for community-based interventions designed to increase physical activity, healthy eating, and smoking cessation to reduce hypertension, diabetes and obesity.
- Promote more aggressive treatment and management of risk factors in priority populations (more frequent medical follow-up, close monitoring of medications for effectiveness and increased referrals to appropriate support networks or services).

5. Increase access to care.

- Work with local health systems to collaborate in establishing low-cost or free clinics for the underinsured or uninsured.
- Identify and reduce physical and psychological barriers to care (e.g., issues of transportation, cost, health literacy, fear of clinicians).
- Promote mobile cardiovascular health screening programs and home services.
- Develop and support health information and care delivery systems that can be successfully navigated by consumers with low literacy levels. Translate documents and/or offer interpreters for those whose primary language is not English.
- Promote coverage of registered dietitian visits for those at high risk for cardiovascular disease.

Expected Outcome

There will be increased awareness and proficiency of Michigan health care providers regarding evidence-based standards and best practices in the prevention and treatment of CVD.

Over 60% of people who die from heart disease in the U.S. die in the emergency room or before reaching the hospital.

2004 AHA Statistical Update

Recommendations for Hospital and Rehabilitation

1. **Disseminate and promote health system strategies to improve performance measures related to CVD control and prevention, specifically, a) documentation of risk factor assessment and b) implementation of ACC, AHA/ASA and NIH treatment guidelines to improve quality of care.**

   - Promote the use of the National Registry of Cardiopulmonary Resuscitation (NRCPR), Guidelines Applied to Practice (GAP), Get with the Guidelines and other proven methodologies

   - Support funding for the development and dissemination of educational materials, tool-kits and other support materials to ensure the use of evidence-based guidelines

   - Support and encourage professional education, including in-house, departmental meetings and basic professional education that emphasizes evidence-based guidelines

2. **Develop a coordinated regional approach to health care for all aspects of CVD and stroke.**

   - Coordinate Emergency Medical System (EMS) on a regional basis to ensure preparedness, appropriate equipment and system for triaging to appropriate health care facilities

   - Conduct annual surveys of resources by region, and emphasize use of existing surveys when feasible, to identify knowledge gaps and opportunities for improvement

3. Advocate timely implementation of effective, emerging diagnostic and treatment modalities to ensure cost-effective, high quality care.

   - Support expert review and published standards to ensure appropriate use of new procedures and treatments such as t-PA, C-Reactive Protein, genetic screening and interventional therapy.
   - Convene an "Expert Clinical CVD Panel" to review standards of care, quality care and new technologies to provide guidance regarding "best practice models."
   - Fund programs targeting high blood pressure awareness, detection and control to lessen this risk factor's heavy burden on CVD.

4. Reduce disparities in identification, treatment and control of heart disease and stroke, focusing on identified priority populations.

   - Assess, monitor and report geographic resource disparities in CVD.
   - Focus programs on underserved populations, and promote and coordinate existing programs (e.g., minorities, women, and the elderly).

5. Improve communication between health professionals.

   - Identify successful disease management models and disseminate them for widespread adoption.
   - Increase reliance on allied health professionals, to complement physician initiatives in ongoing disease management and primary/secondary prevention programs (e.g., nurse practitioners, exercise physiologists, dietitians).

6. Improve patient compliance with risk reduction strategies.

   - Develop ethnic, cultural and behaviorally relevant risk reduction messages and strategies (e.g., easy to remember, readiness to change assessment, etc.) to facilitate long-term compliance.
   - Enhance communication between health care providers and patients through provision of ongoing case management of risk factors.
   - Explore realm of technological solutions to facilitate and/or improve communication between providers and patients.
   - Advocate for reimbursement for discharge cardiovascular rehabilitation, education and treatment.

7. Increase practitioner awareness and treatment of primary and secondary risk factors affecting rehabilitation potential.

   - Identify and provide tools to assist health professionals in identification and treatment of factors affecting rehabilitation (e.g., Hands Depression Survey, SF36, nutritional risk assessment, Duke Activity Status Index [DASI]).
   - Increase provider awareness of ACC/AHA/ASA secondary prevention guidelines for patients with coronary and other vascular diseases.

8. Expand availability and accessibility of rehabilitation models, including varied alternative models.

   - Partner with educational institutions to broaden scope and design of available rehabilitation models. Address ethnic and cultural differences in development of such models.
   - Provide education to practitioners in promotion of medically-directed, home-based programs.
   - Work with insurance industry to extend benefits to include coverage of non-traditional rehabilitation models.
   - Use a variety of contemporary techniques to facilitate monitoring and/or communication between patients managed at home and rehabilitation staff, including regular telephone contact, mail, fax, video recording, Internet and transtelephonic ECG monitoring.

9. Improve the outcome of acute CVD events in the home and community.

   - Expand and promote the availability of CPR training. At a minimum, ensure that family members of individuals with CVD are trained.
   - Promote the appropriate use of the cardioprotective effects of aspirin, providing there are no contraindications. Regular aspirin use can reduce the likelihood of blood clots, lessen the severity of new heart problems, minimize damage at the onset of a heart attack (if chewed and swallowed), and decrease coronary artery inflammation.

10. Increase patient awareness that modest long-term lifestyle changes offer significant benefits in recovery from and protection against recurrent acute cardiovascular events.

    - Conduct public and patient information campaigns focused on cardiovascular disease prevention (e.g., importance of smoking cessation, control of hypertension and diabetes, cholesterol lowering, maintaining healthy body weight and regular physical activity).
    - Implement changes in community service delivery that support prevention and wellness, increase awareness of personal responsibility and promote healthy lifestyle choices.
    - Target efforts to areas of Michigan with priority populations and/or high incidence of CVD per capita.

Expected Outcomes

Michigan will improve in performance measures moving toward national guidelines for quality CVD care and prevention.

- Communication between health professionals will be improved.
- Use of tools, guidelines and systems in clinical care will increase compliance with evidence-based standards.
- Patients will have awareness that modest, long-term lifestyle changes offer significant benefits in recovery from and protection against recurrent acute cardiovascular events.

Evaluation of Progress and Vision for the Future

Progress on these recommendations

will rely heavily on the partners involved in the development of this report . Actual implementation of the recommendations will depend on the involvement and activities offered by the member agencies and individuals on the Cardiovascular Health Task Force.

An advisory committee of Task Force members has been assembled to provide advice on future issues, lead the development of an implementation plan and monitor and report on the progress of the recommendations.

Additional MDCH reports involving CVD will provide more frequent updates on the CVD problem in Michigan. These include:

- CVD Fact Sheets
- Behavioral Risk Factor Surveillance Survey
- *Healthy Michigan 2010*
- Vital Statistics
- Stroke and Heart Disease Fact Sheets
- Michigan Critical Health Indicators

Other reports such as *Healthy People 2010* will be a benchmark for national progress to which Michigan data can be compared. Ongoing surveillance and reporting is important to chart progress and identify needs.

Vision for the Future

The recommendations within this report form a foundation for future action by all partners in this vision. The Michigan Cardiovascular Health Task Force collaborated to develop priority activities to reach the ultimate vision of a heart-healthy and stroke-free Michigan. Together, we must continue to work on all fronts to combat this large and growing problem – CVD.

"The key message for clinicians, researchers and all others who wish to advance the cause of cardiovascular disease prevention is that they must accept personal responsibility to take a leadership role. This leadership often requires new knowledge and a new set of skills, including skills in social marketing, in advocacy and building partnerships and coalitions."

1998 Singapore Declaration for Heart Health

Below is a list of resources and tools identified during the committee discussions. This list is not to be viewed as all-inclusive, but is provided as an additional information source.

General Resources

American Heart Association Website. Dallas, TX: http://www.americanheart.org/.

Centers for Disease Control and Prevention. Promising Practices in Chronic Disease Prevention and Control: A Public Health Framework for Action. Atlanta, GA: U.S. Department of Health and Human Services, 2003. http://www.cdc.gov/nccdphp/promising_practices/pdfs/Promising_Practices.

Centers for Disease Control and Prevention. Guide to Community Preventive Services. Atlanta, GA: U.S. Department of Health and Human Services, 2003. http://www.cdc.gov/programs/partners4.htm.

Centers for Disease Control and Prevention. Promising Practices in Chronic Disease Prevention and Control: The Community Guide. Atlanta, GA: U.S. Department of Health and Human Services, 2003. http://www.thecommunityguide.org/.

American Heart Association. AHA Guidelines for Primary Prevention of CVD and Stroke: 2002 Update. Circulation. 106: 388-391. 2002. http://circ.ahajournals.org/cgi/reprint/106/3/388.pdf.

The Michigan Department of Community Health's Cardiovascular Health, Nutrition & Physical Activity Program. P.O. Box 30195, Lansing, MI 48909. http://www.michigan.gov/mdch/cardiovascular.

Michigan Stroke Initiative. http://www.epi.msu.edu/msi.

National Institutes of Health. National Heart Lung and Blood Institute and the National Institute of Neurological Disorders and Stroke. http://www.nhlbi.nih.gov and http://www.ninds.nih.gov.

http://www.MIHealthTools.org - is a website that features multiple assessment tools designed by MDCH. (Promoting Active Communities Tool and the Healthy School Action Tool) are now available.

Chronic Disease Prevention and Control

Centers for Disease Control and Prevention. Healthy People 2010. Atlanta, GA: U.S. Department of Health and Human Services. http://www.healthypeople.gov.

Resources *continued*

Centers for Disease Control and Prevention. State Programs in Action. Exemplary Work to Prevent Chronic Disease and Promote Health. Atlanta, GA: U.S. Department of Health and Human Services, 2003. http://www.cdc.gov/nccdphp/exemplary/pdfs_state/heart_disease.pdf.

Centers for Disease Control and Prevention. Unrealized Prevention Opportunities: Reducing the Health and Economic Burden of Chronic Disease. Atlanta, GA: U.S. Department of Health and Human Services, November 2000. http://www.cdc.gov/nccdphp/upo/resources.htm.

Epidemiology and Surveillance

American Heart Association. Heart Disease and Stroke Statistics – 2004. Dallas, TX; http://www.americanheart.org/downloadable/heart/10461207852142003HDSStatsBook.pdf.

Council of State and Territorial Epidemiologists Website. Atlanta, GA. http://www.cste.org.

Michigan Department of Community Health. Health Risk Behaviors in the State of Michigan: 2001 Behavioral Risk Factor Surveillance System. Lansing, MI: http://www.michigan.gov/documents/BRFSS_54523_7.pdf.

Prevalence of Healthy Lifestyle Characteristics—Michigan, 1998 and 2000. MMWR Weekly. 50(35):758-61.http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5035a3.htm.

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[3] California Department of Health Services. *Heart Disease and Stroke in California: Surveillance and Prevention 2002.*

[4] *The 2000 Victoria Declaration on Women, Heart Diseases and Stroke, A Declaration of the Advisory Board of the First International Conference on Women, Heart Disease and Stroke.* Victoria, Canada, May 8-10, 2000.

[5] *Promoting Cardiovascular Health in Michigan: Recommendations for Action*, NDCH, 1991.

[6] *Promoting Cardiovascular Health in Michigan: Update on the Continuing Challenge*, NDCH, 1997.

[7] *Michigan Stroke Initiative Report and Recommendations*, 2000, MDCH

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[9] Hogan JG. *Epidemiology of Diseases of the Stroke Fact Sheet*. Bureau of Epidemiology, Michigan Department of Community Health, December 2002.

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[11] National Center for Chronic Disease Prevention and Health Promotion. *YRBS Michigan Summary Results*. Atlanta, GA: Centers for Disease Control and Prevention, 2003.

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